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Flywheel Rotor Safe-Life Working Group



Government Sponsor Overview

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Aerospace Corporation
El Segundo, CA**



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Flywheel Rotor Safe-Life Working Group



- **Background**

- **NASA and AFRL have been cooperatively developing flywheel technology for NASA and AF aerospace application since 1997**
- **Flywheel rotor safe-life technologies are a key element of this development activity**
- **Another key element is the development of a standardized approach to the design, analysis, test, manufacture, inspection and certification processes used by industry for NASA and AF aerospace applications**



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- **Government Sponsor Objectives**
 - **Develop an industry consensus standard for the certification of flywheel rotors for aerospace applications**
 - **Assure that flywheel rotors developed for government missions can meet safety and life requirements**
 - **Provide a broadly based forum for the development of this standard that includes those with a stake in the outcome**



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- **Implementation**

- **The Aerospace Corporation has been tasked by NASA (with AFRL support) to develop, chair and manage the Flywheel Rotor Safe-Life Working Group as a technical forum for the development of the aerospace standard**
- **The FRSLWG is a voluntary activity**
- **NASA and AFRL will provide technical support to the FRSLWG within the scope of existing programs and available funding**
- **NASA and AFRL will provide export control management**
- **NASA and AFRL will also sponsor an oversight group composed of customer technical management across government and industry**



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- **NASA and AFRL Programs**
 - **NASA Aerospace Flywheel Technology Program**
 - **Content includes material characterization testing, life prediction techniques, cyclic spin testing, and NDE techniques**
 - **NASA Flywheel Energy Storage System Project (FESS)**
 - **A certification program has been defined and will be conducted to meet ISS requirements**
 - **AFRL Flywheel Attitude Control and Energy Transmission System Project (FACETS)**
 - **Content includes**



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- **FRSLWG Products**
 - **An industry consensus standard for certification of aerospace flywheel rotors**
 - **Identification of open technical issues and recommendations for resolution**